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ORIGINAL ARTICLES.

CENTRAL GUTTATE CHOROIDITIS.*

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You doubtless recall the fact that Tay and Hutchinson first described a superficial form of choroiditis which is most frequently found in the macular region and may be entirely confined to this part of the eye ground. The ophthalmoscope shows a greater or less number of rather closely aggregated pin head dots with soft outline. The affection is commonly called Tay's choroiditis and the cases first described occurred in persons past middle life. Similar conditions have, however, been observed in persons of all ages.

De Schweinitz in his text book refers to it as "senile guttate choroiditis, due to senile changes, and marked by the appearance of numerous, white glistening dots, somewhat resembling the earlier stages of albuminuric retinitis and always symmetrical, but sometimes an interval of time elapses before the implication of the second eye."

Fuchs speaks of central choroiditis as being due to myopia and syphilis, but does not refer to guttate choroiditis at all. He dismisses the subject by saying "there is observed in old people a disease of the macula, which usually affects both eyes equally, and is referable to senile changes."

Hall Griffith in Norris and Oliver's System of Ophthalmology divides senile central choroiditis into two classes. (1) The typi-

*Read at the February meeting of the St. Louis Ophthalmological Society.

cal variety which has the appearance of a circular or oval sharply defined spot in the region of the macula, and is about the size of the optic papilla. (2) Cases where we find only an irregular cluster of yellowish dots in the region of the macula, or an appearance as if this region had been lightly dusted over with a mixture of salt and black pepper; similar conditions are found in young people, often associated with anæmia; considerable improvement of sight often occurs in these cases. He also states that "senile central choroiditis is always symmetrical, and seldom makes its appearance before the sixtieth year. Vision is always reduced, sometimes to Jaeger 16 or 20. Total blindness never occurs. No improvement is to be expected."

Nettleship suggests that these degenerative changes, as well as those occurring in atrophy at the macula and surrounding parts, deeper atrophy of the same region, and grayish or yellowish white deposits beneath the retina, forming an oval or rounded opaque patch in the region of the macula, may have their starting point in disturbance of the blood supply of the part; perhaps from disease of the walls of the choroidal vessels or of the posterior ciliary arteries which supply them.

According to Frost the affection commences in the superficial layers of the choroid, probably in the lamina vitrea and tends to spread forward into the pigment layer of the retina and not back into the true structure of the choroid. This condition is not to be mistaken for another condition, occasionally seen, in which the vision is quite normal, and the eyes otherwise apparently normal, where we find minute pale whitish or yellowish dots, generally arranged in clusters, in the region of the macula. They seem to be quite superficial and Frost thinks they probably do not lie in the pigment layer of the retina, but are produced by some irregularity of surface which powerfully reflects the light. They seem to have been first described by Marcus Gunn who found them in all the members of a family of six. They are sometimes called "Crick's" dots.

The following cases of central guttate choroiditis have been under observation for some years and seem to be of sufficient interest to report to this society because, while guttate in character, they cannot be regarded as belonging to the type described by the authors I have quoted.

Mr. D. B. aged 38, first consulted me on May 26th, 1900, giving a history of impaired vision in his right eye. Vision of right eye=19/30, with +1 D.S. \ominus +.50 D.C. ax. 180=17/15. Vision of

left eye =19/20, with +.75 D.S. \cup +.25 D.C. ax. 180=17/15. Ophthalmoscopic examination revealed a perfectly healthy fundus in either eye. The above correction was prescribed and I did not see him again until January 6, 1905, when he reported that his vision both for distance and near had been good until recently he has noticed that the vision for near is not quite satisfactory. With his glasses his vision for distance was quite normal. I found him to be slightly presbyopic, and the proper glasses gave him perfectly good near vision. The ophthalmoscope again revealed nothing abnormal in the eye grounds.

His next visit was on November 17th, 1906, when he reported that he had gotten along nicely until three weeks ago when he noticed that his vision with his left eye was blurred. His vision with his right eye was good. No headache or pain in eyes. General health good. No history of lues, rheumatism, or kidney trouble. Vision with his right eye with his correction was 17/15, with his left eye 17/19 blurred. He read Jaeger No. 1 with +2.25 D.S. added to his correction for distance; but while the print was perfectly clear when using his right eye, it was much blurred, and was read with great difficulty with his left.

The right fundus was found to be normal. In the left eye the vitreous was quite clear, the disc normal, arteries and veins of normal size, but the inferior temporal vein was slightly compressed by the artery, and the macular twig extending from the disc somewhat tortuous. The choroid and the retina were found to be perfectly healthy, except in the region of the macula, where I found a number of grayish white, soft appearing, pin head spots that had not been there at the time of any of my previous examinations. I prescribed bichloride of mercury in full doses, regulated his diet, and proscribed alcoholic drinks and tobacco. November 19th, two days later, his vision was much more blurred; could see 17/19 with great difficulty and Jaeger No. 2 as through a haze.

November 29th vision=17/19+ and less hazy; December 20th vision=17/15+ and Jaeger No. 1; quite as good vision as with the other eye. The treatment was continued until March 16th, 1907. The ophthalmoscope still showed the original dots, but they were smaller and whiter. Since that date he has consulted me from time to time for slight ailments and for a change of glasses, vision remaining good; on January 7th, 1910, it was 18/12 with either eye. He consulted me last on May 21st, 1910, for a slight sub-conjunctival hæmorrhage in the right eye. No

other trouble. I found the retinal evidences of arterio-sclerosis about the same. This seems to have been a case of unilateral guttate central choroiditis, or chorio-retinitis, which can scarcely be looked upon as Tay's, on account of its involving only one eye, and responding so promptly to treatment. I have been unable to determine the aetiology, but think the arterio-sclerosis, although in its incipient stage, may be responsible, for what was, in my opinion, an inflammatory and not a degenerative process.

Case II.—Mr. H. L., aged 57, consulted me first November 7th, 1901, on account of unsatisfactory vision with his glasses which he had been wearing for some years. The eye grounds were found to be normal, with the exception of some evidence of arterio-sclerosis in the retinal vessels. The superior and inferior veins were compressed where the arteries passed over them, and the macular twigs were somewhat tortuous. I referred him to his family physician, for a thorough examination, who reported him in good condition. Plus 2.50 D.S. was prescribed for constant use and +5. D.S. for all near work. With this correction his vision was 17/15, and Jaeger No. 1. September 25th, 1903, he consulted me again giving a history of unsatisfactory near vision for the last six months. The appearance of the fundi had not changed. Vision with either eye with his old glasses was 17/20; with +2.75 D.S. instead of +2.50 D.S., his vision =17/15 with either eye; +2.75 D.S. added gave him perfectly satisfactory near vision. This combination was ordered. On September 12th, 1905, he consulted me again on account of catarrhal conjunctivitis. His vision and the eye grounds had remained unchanged. On December 10th, 1906, he called again and gave a history of not seeing well, especially at a distance, for two weeks. Vision of right eye with +2.75 D.S. =17/19; with +3 D.S. added, Jaeger No. 1 with difficulty. Vision of left eye with +3 D.S., =17/24; with +3 D.S. added, Jaeger No. 3. Ophthalmoscopic examination revealed a number of small pin head yellowish spots in the macula of either eye. The evidences of arterio-sclerosis were no more marked than they had been, with the exception of the macular twigs, which were more tortuous. Otherwise the fundi were quite normal. His family physician again reported a good general condition. I prescribed the proper glasses and gave him bichloride of mercury internally. On January 7th, 1907, vision of right eye with his glasses =17/24; vision of left eye with his glasses =13/40. The mercury was continued and iodide of potassium was also

prescribed. No improvement in vision was demonstrable until January 31st, when vision of right eye with his glasses =17/19, and vision of left eye with his glasses =13/30. He was kept on this treatment until April 24th, 1907, when vision of right eye =17/19 and Jaeger No. 1. Vision of left eye =17/24 and Jaeger No. 1 with difficulty. The spots in the macula were less yellow; otherwise there was no change in the eye grounds. I concluded that no more improvement was to be expected and discontinued the treatment. In April, 1908, he consulted me on account of a catarrhal conjunctivitis. Vision of right eye with his glasses =17/19, and vision of left eye with his glasses =17/19; a distinct improvement in the left eye during the year that had elapsed without treatment. Ophthalmoscopic examination revealed no apparent change in the condition of the fundi, with the exception of the yellowish spots, which were now whitish in appearance. In May, 1909, he consulted me, giving a history of having had no trouble during the year, but thought he might need a change of glasses. Vision of right eye with +3 D.S.=+.25 D.C. ax. 90=17/15. Vision of left eye with +3.25 D.S.=17/15. Jaeger No. 1 with +2.75 D.S. added to the above. Again no apparent change in the appearance of the fundi had taken place.

In January, 1910, I found vision of right eye and vision of left eye with his glasses =17/15. April 28th, 1911, with +3.50 D.S. vision of right eye =17/15. With +3.25 D.S.+0.75 D.C. ax. 180 vision of left eye =17/15. The ophthalmoscope revealed no change in the appearance of the fundi.

This case is interesting (1) because he had been under observation for five years, and his general condition had apparently not changed in the least, when without any demonstrable cause, a bilateral guttate central choroiditis developed. (2) The moderate improvement of vision during the five months' course of treatment, and the gradual improvement to quite normal vision during the next two years without any internal medication. (3) The gradual increase in the amount of manifest hypermetropia from the age of 57 to the age of 67. Here, as in case 1, arterio-sclerosis seems to be the only demonstrable cause for the choroiditis, and the condition seems to have been inflammatory rather than degenerative.

Case III.—Mr. B. C., aged 53, consulted me in May, 1909, regarding pain in his eyes, forehead and occiput from which he had been suffering for some weeks. General health good, but

suffers occasionally from rheumatism. Vision for distance good. Vision for reading fair, with glasses. St. Pr.; Vision with right eye =17/30 with +.75 D.S. \cup +1.25 D.C. ax. 180=17/15. Vision with left eye =17/24 with +1.50 D.C. ax. 180=17/15, plus 2.50 D.S. added to the above correction enabled him to read Jaeger No. 1 easily. Has chronic catarrhal conjunctivitis and peripheral lens changes in both eyes. The retinal vessels indicate a considerable degree of arterio-sclerosis; with these exceptions both eyes seemed to be in a very good condition. I advised him to wear bifocals constantly, prescribed for his conjunctivitis and advised him to undergo a thorough physical examination. I saw him from time to time and prescribed for his conjunctivitis which gradually improved. The pain in his eyes, forehead and occiput was entirely relieved by the glasses.

On June 3rd, 1910, he consulted me again regarding his conjunctivitis, and reported that he had neglected to see his physician because he had been feeling quite well.

On October 8th, he reported that for the last three months he had been suffering from peripheral neuritis and during this time his vision has not been so good. His conjunctivitis has been annoying him again. Vision of right eye with glasses =17/19. Vision of left eye with glasses =17/19; with +3 D.S. added to his distance glasses he seemed to get satisfactory vision for reading. The ophthalmoscope showed nothing new.

On November 5th he reported that he was getting along nicely. On January 11th, 1911, he reported that his vision had not been so good for the last five days. Vision of right eye with glasses =17/30 and Jaeger No. 2, unimproved. Vision of left eye with glasses =17/24+ and Jaeger No. 2, unimproved. Lens changes about the same. Retinal arteries indicate progressive arterio-sclerosis. Small yellowish spots were found in either eye in the macula. I advised his physician to give him the bichloride of mercury and potassium iodide.

February 2nd, vision of right eye with +1 D.S. \cup +.75 D.C. ax. 180=17/15. Vision of left eye with +.50 D.S. \cup +1 D.C. ax. 180=17/15. His physician feeling that the mercury and potassium iodide were indicated for his general condition continued them in moderate doses. He was seen from time to time and his vision remained good until May 11th when he reported that it had not been so good for the last few days. Vision of right eye with glasses =17/24. Vision of left eye with glasses =17/24. No apparent change in the intra-ocular condition. His physi-

cian was advised to increase the dose of the mercury and the potassium iodide. Under this treatment he regained his normal vision in a short time and has kept it to date in spite of the fact that his general condition is constantly getting worse. His physician reports that at present his blood pressure is from 175 to 180. His kidneys and heart are in a good condition, but he has some numbness on his left side, probably due to a slight cerebral hæmorrhage. He is very nervous and seems to be gradually losing ground. Judging from the prompt improvement of vision, I should say that this case also belongs to the inflammatory rather than the degenerative type.

A CASE WHICH DEMONSTRATES THE HARDIHOOD
OF THE HUMAN EYE.*

BY F. L. HENDERSON, M.D.,

ST. LOUIS, MO.

It is customary to speak of the human eye as a delicate structure, and it well deserves this characterization if its wonderful construction and its adaptability to the functions required of it are considered. But to imply by this term that an eye is lacking in vital resistance, or that it is easily deprived of its functioning ability, is misleading. The following case will exemplify the powers of resisting traumatic influence sometimes manifested by this seemingly delicate organ.

M. S., a machinist, aged 20, was struck in the right eye with a thin whisky glass, causing several wounds of the lids, brow and cheek. The physician who dressed his injury could find no glass in the eye, although a wound of the ocular conjunctiva was present. This was pronounced to be merely a scratch which would quickly heal. On the fortieth day after the injury this scratch was still slightly inflamed and giving some pain of the nature produced by a foreign body under the lid. The attending physician then discovered a piece of glass in the wound, and after a protracted and unsuccessful effort to remove it, sent the patient to me. There was a vertical wound of the conjunctiva, about 5 millimetres long, situated 5 millimetres from the corneal

*Read at the meeting of the St. Louis Ophthalmological Society, March 11th, 1912.

limbus and about 2 millimetres anterior to the insertion of the external rectus muscle. The conjunctiva was hyperæmic only in the area immediately around the wound and in the area extending from the wound toward the outer canthus. The iris was normal when compared with its fellow. The pupil reacted promptly to light; the patient declared vision was good and that it had been from the time of the injury, though no test of the vision was made at this time. When the space between the lips of the wound was cleansed of an accumulation of muco-pus, a transparent substance like an elongated drop of vitreous was visible. A probe soon proved it to be glass. Under cocain anæsthesia the wound was slightly enlarged above and below with a Graefe cataract knife. All bleeding was stopped and the swelling and hyperæmia were reduced by one drop of adrenalin solution. The quadrilateral end of a fragment of glass was plainly visible. It was removed with a pair of small forceps. The wound was closed by one thread, which included a considerable fold of conjunctival tissue. There was no reaction whatever. On the third day the eye was left uncovered. On the fourth day the ophthalmoscope showed a long tear in the retina and choroid extending from the wound of entrance toward the macula. There were no remnants of intraocular hæmorrhage or evidence of there ever having been any. Vision one week after the removal of the foreign body was 6/12 and not improved by glasses.

The interesting features presented by the case are:

1. The unusual size of the foreign body, it measuring 12 millimetres in length, $5\frac{1}{2}$ millimetres in width, and 1 millimetre in thickness. Its relation to the size of the eyeball is better appreciated when we consider that the antero-posterior diameter of the right eye, in a male at the age of twenty, is only 24.8 millimetres.
2. The presence of an extensive injury to the choroid and retina with absence of any evidence of intra-ocular hæmorrhage.
3. The total absence of any inflammation of the iris or ciliary body, although this large foreign substance remained in situ, perforating the posterior part of the ciliary body, for forty days. During this period no precautions, hygienic or medicinal, had been taken to prevent involvement of the uvea. The patient worked every night from the fourth day after the injury until the glass was removed.

Wagenmann has reported a case in which a fragment of glass in the anterior chamber did not produce any irritation until the

expiration of six months. The irritation then produced, he claims to have been due to chemical changes. In support of his contention that it was not mechanical he adduces the fact that the piece was firmly fixed in the tissue, and further that the manifestations of irritation were too long delayed after the injury. The late inflammatory symptoms which arise as the result of the presence of glass within the eye are also attributed to chemical action by Leber.

The following is taken from the *London Lancet* concerning this point:

"It is not true, though it is commonly supposed to be so, that glass is unattacked or completely undissolved by water and many other fluids in household use. On the contrary, the indelible marks which often appear on a water-bottle arise from the action of the water upon the glass. Pure distilled water, showing neither an acid nor an alkaline reaction, which has been allowed to remain in a closed glass bottle for some time will gradually develop an alkaline reaction owing to the base of the mixed silicate of the glass dissolving in the water. At the same time a deposit of silica will generally be found at the bottom. This obviously shows a dissociation of constituents, and the glass yields up its silica and its alkali to water. With acid fluids the same action may be observed, and it is conceivable that with acid wines kept long in bottle some considerable action upon the glass may occur. Weak acid solutions cease to be acid after being kept in glass bottles for some time owing to the neutralization of the acids by the alkali of the glass, and at the same time a flocculent and generally iridescent deposit is found in the bottle consisting of silica. This deposit is a constant source of trouble to druggists."

The fluids of the eye being alkaline their action upon glass would naturally be very slight and very slow. Had this piece of glass penetrated a sixteenth of an inch further, the conjunctival wound would have healed smoothly over it. The sensation of a foreign body would then have been missing, and the only clue to its presence would have been lost. It is interesting to speculate upon what the subsequent course of the case might have been.

A CASE OF OPTIC NERVE ATROPHY AFTER SEVERE
HÆMORRHAGE FROM THE STOMACH.BY ADOLF ALT, M.D.,
ST. LOUIS, MO.

Cases of amblyopia and atrophy of the optic nerve following severe and copious hæmorrhages from some distant part of the body are not at all unknown, and yet they do not occur often enough in the practice and experience of a single man to make the report of such a case altogether useless.

On December 22d, 1911, I was asked to examine the eyes of a patient who had been for some time an inmate of the St. Louis Mullanphy Hospital. The patient was a powerfully built man, 43 years of age. His case history showed that he had been brought to the hospital on November 23d in an exsanguined condition and semi-unconscious, after a profuse hæmorrhage from the stomach. The diagnosis of an ulcer of the stomach was made and treatment was instituted. I found that he had again vomited 3viii of blood on November 29th, and again a large quantity mixed with blood clots on November 30th. His pulse after these two last hæmorrhages could not be counted. On December 1st I found the notice of his having vomited blood and water, and on December 13th mention of a black stool. During this whole time the patient seems to have been unconscious or semi-conscious.

When I saw him for the first time he was in a partial stupor, but could be sufficiently aroused to answer some questions. He looked very pale and anæmic. I found both pupils dilated *ad maximum*. The right pupil was perfectly immovable, the left one reacted slightly to light. While he had barely light perception in the right eye, the vision in the left was fairly good, as he counted fingers with difficulty at about 6 feet in the darkened room in which he lay.

With the ophthalmoscope the discs were seen to be chalky white, and sharp in outline; the veins were very thin, and the arteries so small that they could be followed with difficulty only for some distance from the optic papilla. In spite of the difference in the vision of the two eyes, the ophthalmoscopic pictures did not materially differ from each other. This prompted me to ask him, whether he had had any previous affection of the eyes and whether his right eye had, perhaps, previously shown

any loss of vision. This he denied, but I doubt whether his statement can be relied upon.

He said, however, that a few days previous to my first examination he had been totally blind, his left eye being as blind as his right one.

On January 4th, 1912, he was discharged from the hospital. I did not see him again until January 28th. He was now very much improved in his general appearance, but walked very unsteadily, so that he had to be led.

On this day I found the vision in his right, formerly blind, eye had risen to counting fingers at $1\frac{1}{2}$ foot, while the left eye had 20/100? and with -1 D.S. could be brought to 20/50? The right pupil was dilated *ad maximum* and immovable as at the former examination. The left pupil was of medium size and responded, if sluggishly, to light. The visual field of this eye, however, extended only to about 10 degrees from the fixation point; nasally it was even smaller. The ophthalmoscopic picture was the same as before.

On February 11th the vision of the right eye was unchanged, while a -1 D.S. brought vision in the left eye to 20/40. The field of this eye was slightly larger. He had gained in general appearance and strength. The ophthalmoscopic picture was unchanged.

On March 13th he came again to my office, evidently much improved generally. The right pupil was somewhat smaller than at the former examination and showed a slight reaction to light. I found that vision in this eye had in a very small central field risen to counting fingers at 6 feet. The left pupil reacted normally. Vision in this eye with his glass was now 20/30, but the visual field was only slightly larger; it was nasally 10° , upward 15° , outward and downward about 20° . The ophthalmoscopic picture, in spite of the improvement in vision was very much the same as before, the arteries *ad maculam*, especially, could not be made out.

Before his sickness the patient had been engaged as a driver for a brewery and evidently was a heavy consumer of beer. This probably accounts for the condition of his stomach which finally culminated in the formation of an ulcer and the repeated hæmorrhages. It may, also, be possible that he had alcoholic atrophy of the optic nerves before these hæmorrhages came on. Yet, even if this was the case, the profound anæmia following the profuse hæmorrhages undoubtedly accounts for the comparatively sudden blindness which he experienced.

REMOTE EFFECTS OF EXTIRPATION OF THE
GASSERIAN GANGLION.

OBSERVATIONS ON A CASE FOURTEEN YEARS AFTER OPERATION.

BY SAMUEL HORTON BROWN, M.D.,
PHILADELPHIA, PA.

The case which I desire to report was observed in the Eye Clinic at the Episcopal Hospital, Philadelphia, in the service of Dr. Frederick Krauss, to whom I acknowledge my indebtedness for the privilege of placing it upon record.

The patient was a man, 49 years of age, who had been quite a sufferer from tic douloureux on the right side of his face, and after resorting to many forms of treatment without any relief, he ultimately was operated upon by Dr. W. W. Keen at the Orthopædic Hospital, Philadelphia, in 1897, and the Gasserian ganglion on the right side was removed. According to the patient, in order to avoid the consequences of trophic disturbances, the eyelids of the right eye were sutured so as to close the lids continuously. These sutures sloughed out and a combination of circumstances threatened the integrity of the eye. This was the only disturbing feature of the convalescence and Dr. G. E. de Schweinitz was consulted for the ocular complications.

In January, 1912, the patient was observed by the writer of the notes and he (the patient) stated he had been completely free from tic douloureux ever since the operation. He was, however, subject to "trouble" off and on with the right eye. This trouble consisted of lachrimation, redness, and mucopurulent discharge, but at no time was there any pain.

Examination of the right eye showed slight entropion and trichiasis of the lower lid, doubtless due to the contraction of the scar following the sloughing out of the sutures. The friction of the lashes of this incurved lid on the cornea occasioned no discomfort. There was also present slight palpebral and bulbar conjunctivitis. There was considerable pericorneal injection, but the most striking feature was a large, superficial, slightly elevated nebula which occupied the lower and outer half of the cornea, but avoiding the exact center. This scar was rather rough on its surface and had the appearance of a flake of some kind superimposed upon the cornea.

Despite this condition of the cornea, the patient's vision in this eye was 5/22.5. The tension was normal. The pupil was

about 3 mm. in diameter and very slightly active. It showed a tendency to contract to condensed light with slight oscillatory movements, but would not dilate in the dark. This was doubtless due to iritic adhesions. It was impossible to obtain a view of the fundus.

The left eye was normal in every detail and possessed vision of 5/15. Compound hyperopic astigmatism and presbyopia were present.

KERATOMALACIA.

S. Stephenson (*British Journal of Children's Diseases*, August, 1911) finds that keratomalacia is a disease occurring in early infancy, the average age of his thirty-one cases being four and one-half months. All of his cases were in children of the very poor and only two of them were entirely breast fed babies. Syphilis was diagnosed clinically in seven of the cases, while six of them were afflicted with tuberculosis, the diagnosis being made during life in three and after death in three. Of twelve fatal cases three had tuberculosis, the disease being of the generalized type. Marasmus, pure and simple, was responsible for the trouble in seven cases, while the cause of the corneal disease was entirely obscure in two cases.

TRANSLATIONS.

GLAUCOMA DUE TO DIMINISHED INTRACRANIAL PRESSURE.*

PRELIMINARY COMMUNICATION.

BY DR. G. A. GOEBUNOW,
ST. PETERSBURG.

Translated by A. Alt, M.D.

At the meeting of the St. Petersburg Ophthalmological Society on January 27th, 1911, Dr. Noischewski detailed his studies of glaucoma experimentally produced in dogs, and showed sections of the papilla of the optic nerve of a dog in which an artificial diminution of the intracranial pressure had been procured. Even without using a microscope the gentlemen present could see the characteristic excavation of the optic disc. The author extolled his theory for the so-called simple glaucoma, having no reason to connect an increase in the intraocular pressure with a decrease in intracranial pressure. In my large glaucoma material which I had collected, especially during the last two years, I found detailed notes of a patient in whom the extraordinary peculiarity of conditions under which the disease took its course, gave a clinical picture which almost equaled the experiment. I sent the case history to Dr. Noischewski, who found symptoms in it which were perfectly identical with those which he had observed in his animals. Thus, so to speak, sanctioned by him, I determined to relate my findings which, on account of the unusual peculiarity of the affection and the wonderful effect of the treatment, are of especial interest.

A., 38 years old, married, formerly a teacher, mother of a healthy daughter 6 years old. Patient never has aborted. She consulted me at the instance of a neuropathologist, Dr. G., after Dr. I. had made a lumbar puncture a week before in order to reduce the intracranial pressure. Dr. G. informed me that the patient had suffered from attacks of migraine for more than 10 years, which in the last 2 years had become so violent that her relatives feared for her reason, since on account of the useless-

*Centrabl. fuer practk. Augenhlk., February, 1912.

ness of all therapeutic efforts she had made several attempts at suicide. Among other things the patient had without any special indications undergone 240 mercurial inunctions. On May 10th, 1910, the lumbar puncture was made, because several physicians thought of an intracranial tumor. This diagnosis was supported by an oculist in these words: "Vision normal, emmetropia. Papillary veins broad. Field for white normal. Contraction on nasal side for red and green. Such conditions may be found in the presence of a tumor."

After the lumbar puncture the pains became intolerable and thus the patient was sent to me, since a diagnosis was yet to be found. I had to interrupt my examination a number of times because the attacks of migraine were so terrible that the patient with an outcry fell back on a sofa almost every five minutes. The result of my examination was the following: "Visual field for white in both eyes greatly contracted on the nasal side (to 10°). Both corneæ show the characteristic opacity. Anterior chambers plainly small. In both eyes a clearly pronounced excavation of the optic papilla. Relatively slight increase of intra-ocular pressure."

From these symptoms I, of course, made the diagnosis of glaucoma. I ordered eserine which had a powerful effect. The patient said she felt like one arisen from the grave. Then I performed an anterior sclerotomy on both eyes with an interval of 2 days, and on the fifth day the patient returned to her home in perfect health.

Three months later she presented herself simply to state that she had perfectly recovered. Everything, including the visual fields, appeared normal. After some time had elapsed the patient had had to undergo severe mental shocks and had numerous sleepless nights. Her daughter suffered from a serious illness. This had again brought on a marked contraction of the nasal fields, dimness of the corneæ and a pretty severe attack of migraine. The anterior sclerotomy had to be repeated and, like the first one, it brought complete relief.

A year later, in May, 1911, the patient showed herself again in perfect health. During the whole year she had had not a trace of headache, although she had taken up her profession again and given many private lessons. The visual field was normal for all colors and the excavation was but little larger than in the norm.

This case is interesting from the fact that the patient almost

never complained of her vision, although from the conditions described this seems almost incredible. Once in a while she observed rainbow colored rings, but she, as well as the physicians, was inclined to ascribe this symptom to the anæmia.

In this case the headaches were in the foreground and it is not astonishing that no attention was paid to the vision. From Dr. Noischewski's standpoint the appearance of the headache, as the most pronounced and striking symptom, which is characteristic of diminution of the intracranial pressure, must be accepted as perfectly normal. At the meeting on January 27th, in the discussion of Noischewski's paper, Dr. W. P. Kalaschnikow asked the author whether he was acquainted with the increase of pressure produced by pharmaceutical agents, for instance, with amyl nitrate. Dr. Noischewski said that he had occupied himself with this question, but had not been able to get a definite answer even from the best qualified pharmacologists.

In spite of this I have had great success with inhalations of amyl nitrate in a case of acute glaucoma. For the time all miotics had been abandoned. This was an extremely serious case which, too, had not been correctly diagnosed for a prolonged time, since here, too, the main symptoms were brain symptoms, as severe migraine and loss of memory. The patient, 35 years old, is married, has 3 children; Wassermann negative; has suffered during the last 3 years from severe headaches which grow worse when the patient applies himself to any occupation. During the last 2 months he had to attend a special course of lectures and work very hard. This rendered him unable to fulfill his official duties. His memory became very bad, so that at one occasion he forgot where he lived. In the early morning already he had a sensation of heaviness in the neck, and near two or three o'clock in the afternoon the headache became absolutely terrible.

The examinations made by neuropathologists and psychiatrists in combination with some internists did not reveal anything pathological in the nervous system. The patient was sent to me by a colleague who knew of analogous cases in my practice, although the patient did not think it possible that I could find the cause of the migraine in the condition of his eyes. He thought that his vision was perfectly good and stated that he wore glasses only on account of a slight myopia. To my great astonishment I found an enormous excavation in both optic papillæ, great contraction of the visual fields on the nasal side, and tem-

porary increase of the intraocular pressure. He also had mixed astigmatism, but no myopia. After the astigmatism had been corrected and pilocarpin instillations were made the patient's condition was greatly improved. Later we had to use eserine, and for a time, when for some unknown reason eserine was less effective, I ordered inhalations of amyl nitrate. After this the worst symptoms disappeared.

There is not space here to relate some other cases in which the symptoms were invariably referred to the head and not to the eye. The few eye symptoms which were present in these cases were chiefly lacrimation, photophobia, chronic conjunctivitis, and other symptoms which are characteristic for irritation of the sympathetic nerve. Since affections of the sympathetic nerve have long been considered as an ætiological factor in glaucoma, while irritation of the sympathetic nerve can be found in almost every case of this disease, Noischewski's theory will have to be supplemented by this, that the affection of the sympathetic nerve and its irritation are due to the diminution of the intracranial pressure. Perhaps, we will find in a combination of these two factors the explanation of the classic symptom of glaucoma, the increase of the intraocular pressure, which in his theory remains unexplained.

The case histories here described give us cause, and the first case even the right, to say that Noischewski's theory is applicable to cases of acute glaucoma and not only to those of simple glaucoma, as this author has stated.

It is to be hoped that the further excellent works of this colleague will give us a solution for the old but still unsolved question of the ætiology of glaucoma.

MEDICAL SOCIETIES.

OPHTHALMIC SECTION OF THE ST. LOUIS MEDICAL SOCIETY.

Meeting on December 16th, 1911.

Dr. Post in the Chair.

Dr. Marsh Pitzman read a paper on The Antiseptic and Germicidal Properties of the Silver Salts and Preparations, which was published in full in the January, 1912, number of this Journal.

Dr. Alt: I am very glad to have heard this interesting paper because I have for a good many years been in the habit of using protargol when I had to deal with purulent conjunctivitis and using argyrol in catarrhal cases, because I found that protargol acted quicker than argyrol in the former ones. This is, as Dr. Pitzman has explained, probably due to the excess of nitrate of silver in protargol.

Dr. Charles: I should like to ask Dr. Pitzman one question, that is—why the silver albuminate doesn't continue to retard the growth if it retards it at once?

Dr. Post: I would like to ask Dr. Pitzman then, if he regards argyrol as inaccurate as a germicide due to inaccuracy as to the amount of excess of free nitrate of silver in the preparation?

Dr. F. L. Henderson: The old question of the relative merits of argyrol and protargol comes up again. I know Dr. Alt's views on the subject; he has always advocated the use of protargol in purulent conditions in preference to argyrol. I think there are a number of us who find argyrol equally as beneficial in purulent conditions as protargol. I want to say that since the introduction of argyrol I have not used protargol at all. In ophthalmia neonatorum, for instance, I substituted argyrol years ago and have used it exclusively. Protargol is often very irritating and painful, and argyrol quite otherwise. The action of argyrol in purulent conditions, I think we were given to understand some little time ago in a paper by Schneider, was necessarily germicidal, but was probably due to the production of leukins. When the position is taken that argyrol is of no value

in purulent conditions, I think we cannot quite accept it, because I have found argyrol clinically equally as beneficial as protargol.

Dr. Alex Wolf: I am very grateful to the Ophthalmic Section for having extended to me the invitation to attend to-night's meeting. The field to which the ophthalmologist devotes his particular attention is somewhat remote from the one which is the object of study and observation of the venerologist, but both have frequently one enemy in common, the gonococcus; and knowing the difficulties they often encounter in combatting it, they better than anybody else are apt to pass their expert judgment as to the relative gonocidal value of different silver salts.

I agree perfectly with the results of Dr. Pitzman's laboratory researches as far as collargol and argyrol are concerned. Neither has proved in my experience to possess the least bactericide effect upon the gonococcus living on the human urethral mucosa. I used the collargol injections to the maximum extent of its solubility (5%) 3 to 4 times a day for many days without any marked decrease in the number of gonococci in the urethral discharge. Argyrol even in the strength of 50 per cent. had no gonocidal effect, and I have discarded it in my gonorrhœal practice entirely. Both preparations have no irritating effect upon the acutely inflamed urethra; but after the lucid explanation of Dr. Pitzman, we can attribute the lack of irritating effect and failure to act as a bactericide upon the gonococcus to the same cause, lack of free silver nitrate. While speaking of collargol, I wish to mention its most wonderful effect, even in the strength of 2 per cent. injections, in cases of bact. coli cystitis where it acts very effectively and transforms the foul ammoniacal urine into one of neutral or normal reaction. In one regard more, the result of the laboratory researches carried out by Dr. Pitzman, tallies with my experience, the outspoken gonocidal effect or nitrate of silver even in very fine dilution. As long as fifteen years ago my teacher and master, Ludwig Spitzer, of Lang's Syphilis clinic in Vienna, instructed the staff physicians to add 0.1 ccm. Ag. NO_3 to each liter of 1.3000 permanganate of potassium solution, in applying Janet's method of the treatment of urethral gonorrhœa, and to compare the results obtained with the original Janet's application (without nitrate of silver). The investigation proved decidedly in favor of the mixed application, through which the course of the disease was invariably shortened.

In regard to organic silver salts as gonocides, my experience

of about fifteen years of practical work, having passed through the whole gamut of the organic salt preparations in the succession in which the chemical industry placed them on the market, is similar to one Goethe's Faust expresses in his famous monologue: "I am just as wise as I was before". . . . "From protargol through ichthargan, argentamin, albargin, syrgol down to the latest addition, the silver iodide emulsion of Parke-Davis, I fought myself through with zeal, energy and much optimism, to find only that just in a case in which I was particularly interested, in which a failure was going to hurt considerably, my favorite preparation proved a dead-sure disappointment. I recollect an instance in my recent experience, where albargin, which of all silver preparations gave me most satisfaction in the treatment of gonorrhoea, had not produced any effect upon the gonococci despite a prolonged (3 weeks) treatment, while Parke-Davis preparation of silver iodide, which I had applied previously in several cases without any encouraging effect, brought about the total disappearance of gonococci within six days (12 treatments). I shall pursue the matter in order to ascertain whether or not the application of different silver salts in the course of treatment will be advisable, lest the effect of the first applied preparation wear out.

Closing, I wish to emphasize the old established fact that the results of laboratory research work cannot apply in full measure to practice. The human body in itself is the most complicated laboratory. Most powerful and only in a small degree known biological factors influence the effect of every drug introduced into the human body for curative purposes. What proves a success *in vitro* may become a failure *in vivo* and all theory may be thrown overboard by practice. As heretofore, each of us will have some special favorite which has served him faithfully, and wisely profit by his own and other authors' disappointments.

Dr. W. H. Luedde: Parke-Davis & Co. recently sent a sample of their silver iodide suspension to the Eye Clinic O'Fallon Dispensary. So far I have not used it, but am curious to know if the silver iodide is as painless as it is claimed to be. Perhaps the last speaker could explain that point. I would like to use it in some of the cases where silver nitrate solution is not well borne.

Dr. Pitzman, in closing: I answer Dr. Henderson's question, that is a matter of concentration. When you get the silver albuminate strong enough it will gradually kill the bacteria. As to the work of Schneider on "Leukins", I have studied the original

and Dr. Alt's translation. It certainly represents an enormous amount of work and very honest work. I do not agree with his conclusions. He attempts to establish a new type of antibody under the name of "Leukine"—an antibody resisting heating to 56°C. for over an hour. Such an antibody, complement it really is, is unknown in established university work. I feel that Dr. Schneider does not exclude silver albuminate as the real antiseptic in his work.

In answer to Dr. Charles: The figures taken are purely arbitrary and diagrammatic. At times in spite of the fact that minus is recorded, there may be the slightest trace of clouding, of growth, which practically cannot be noticed. In the egg-albumin series the growth cannot be determined by inspection and so those figures represent the result of culture.

In answer to Dr. Post: I consider argyrol a very poor germicide. To kill the staphylococcus in full strength it takes about twelve hours. When I say argyrol is a very weak germicide I do not disapprove of it in practice, except when used in a condition where a real germicide is required. In fact, I believe argyrol and collargol are the newer silver preparations which should be used, which have a real cause for existence. In place of the other silver preparations, I would advocate the use of very dilute solutions of straight silver nitrate, which is practically what they are. The treatment of ophthalmia neonatorum was based by Credè on the use of an active germicide, and it is pretty generally accepted that a germicide must be used in order to make sure of killing off the gonococcus. Just how strong or weak, that of course is a question for the specialist to determine. It depends also on the individual, how thoroughly it is applied. In this procedure I do object to the use of argyrol and collargol. Personally, I feel that you get results in the treatment of catarrhal mucous membranes not because you kill off the bacteria, but because of various other reasons.

Dr. Alt presented skiagrams of a case of phantom foreign bodies in an eye. This case was reported in full in the December, 1911, number of this Journal.

Dr. J. Green, Jr., read a paper on Hypopyon Keratitis treated with Powdered Methylene-blue.

Mrs. S. O., an elderly Jewish woman, formerly under my care at the Social Service Hospital Dispensary for chronic conjunc-

tivitis associated with ectropion, presented herself at my office November 27th.

Ocular history: Right eye very sore for two weeks; unable to sleep for several nights past; treated at two dispensaries without improvement.

Examination: The right eye presented an oval undermined ulcer of the cornea, near the upper limbus with an hypopyon extending about one-fourth up into the anterior chamber. The hypopyon was thick and dense and my impression was that the best thing to do was to get her to the City Hospital and do a Saemisch section. As Dr. Saxl had charge of the Eye Dispensary in connection with the City Hospital, I appealed to him to make arrangements for her entrance. He came to my office to look over the case and suggested that we do not send her to the hospital, but adopt a method of treatment which had recently come to his notice through Dr. Wolfner. This method consisted in the filling up of the ulcer with powdered methylene-blue. I had previously had some experience with a weak solution of methylene-blue (1/500) as an irrigating solution for lacrimal sacs and was favorably impressed with it. Accordingly, I cocainized the eye and filled up the ulcer with the powdered methylene-blue after using atropin, two or three times. The eye was then covered with a pad, held in place by Dr. Saxl's eye shield, and the patient allowed to go home. The following day the patient stated that, aside from a little "scratching" after the use of the powder, she had experienced no discomfort. The ulcer was decidedly cleaner, the upper edges much less infiltrated and there was apparently a cessation in the downward progress of the ulcer. The same treatment was repeated for three days, in the course of which the hypopyon had almost disappeared and the eye seemed to be on the high road to recovery. Unfortunately the patient stopped coming, on the fifth day, so I cannot give you the final results of treatment. I have never seen more rapid improvement in hypopyon ulcer than under this treatment.

In answer to Dr. Charles's question as to how long I treated her before I began to use methylene-blue, I saw the patient on Monday and began it that very day, and again Tuesday, Wednesday and Thursday. Dr. Saxl tells me that he has used this treatment in several cases with uniform success.

DISCUSSION.

Dr. Alt: I have never used methylene-blue; but almost exactly twenty-one years ago I reported to the St. Louis Medical

Society my experiences with a preparation which was equally highly praised, if not more so, and of similar character, that was methy-violet. I experimented with it very freely and for a prolonged time in ulcers of the cornea and other eye affections. I did not use it in the same manner as Dr. Green used the methylene-blue, by powdering it into the ulcer; I used a solution or a stick made of methy-violet. This was rubbed well into the ulcer, its edges and fundus, until all was stained deeply. My experiences, to make a long story short, were rather disappointing. One thing, however, I want to say, just like in Dr. Green's case, the patients always felt better; in some way or other it had an anæsthetic effect; some of the ulcers healed apparently quite rapidly, some did not do so well. Added to this was the disagreeable purple staining of the face and lids, which made the patients absolutely refuse to have it used again. As a general remedy, I have given it up, but I use it still once in a while in inflammation of the lacrimal sac, where I found it to act very well. It is, as we all know, a fact that all new remedies when first brought out, seem for some reason or other to do just splendidly in the hands of their discoverers for a series of cases and then other cases come in which they do not do so well. However, I shall try the methylene-blue in the manner recommended by Dr. Green.

Dr. F. E. Woodruff: I have tried the methylene-blue not only in solution, but also in powder form in some ulcers of the cornea that were particularly deep seated, and looked as though they were spreading and would probably result in perforation, and I have also used it where there was hypopyon and have always had immediate relief after the use of it. And I have seen it used in other cases which had gone on from bad to worse under the treatment, and a noticeable improvement began immediately after the use of it in solution or in powdered form.

Dr. Post: I would like to know from Dr. Green in regard to the staining qualities.

Dr. W. H. Luedde: In regard to the general use of the methylene-blue, I might add that, at the time I was in the City Hospital, we used it quite extensively in the treatment of acute urethritis. Dr. Rassieur, who is present this evening, can tell about the methods employed and the results obtained.

Dr. Louis Rassieur: Apropos of the action of methylene-blue powder upon bacteria, I made the following experiments twelve years ago while interne in the St. Louis City Hospital.

I had a virulent strain of typhoid organisms. I made a bouillon culture of them and added sterile methylene-blue until the consistency became almost semi-solid. The organism was not killed but seemingly inhibited in growth, for the hanging drop showed immense blue sluggish bacilli.

To a similar tube I added basic fuchsin crystals and the result was an active fuchsin-stained bacillus of almost normal size. To a third tube I added an excess of eosin. The result was a very short, almost coccal form of organism that was extremely motile. It is needless to add that new bouillon tubes inoculated from the above grew colorless typhoid bacilli.

Dr. Green, in closing: The ulcer itself was stained quite deeply blue, the conjunctival sac was superficially stained, but it could be washed out with boracic acid solution without any difficulty. When the eye was opened the day following the first use of the methylene-blue, the gauze was stained blue, there was some pus on the gauze, and skin surrounding had a few flakes of methylene-blue on it, but no stain.

In reply to Dr. Alt's question, I did not examine the pus microscopically.

MEETING OF THE PHILADELPHIA POLYCLINIC
OPHTHALMIC SOCIETY.

January 11, 1912.

Dr. William Campbell Posey, in the Chair.

The Influence of Glasses in the Correction of Strabismus.—Dr.
D. Forest Harbridge.

In concomitant squint, whatever the real determining factor may be, there is ever present, relatively at least, either an insufficiency or excessive action of opposing muscles. A certain number are explainable by the presence of anomalous anatomical conditions, congenital amblyopia, etc., the two theories commanding the most serious consideration being Donders' and Worth's. So constant is the relationship of esotropia with hyperopia and exotropia with myopia, that it may be considered the rule thus favoring Donders. Worth's theory can be supported in a measure, but if correcting lenses be used it seems fusion

should follow naturally. The varieties of convergent squint in which the application of correcting lenses operate most favorably, are permanent monocular and periodic. Correcting lenses may be ordered even as early as the 18th month.

DISCUSSION.

Dr. Posey said that Worth's theory of a fusion centre was purely hypothetical and quite unnecessary, as the physiological phenomena enacted by the true anatomical centres governing the muscles which were concerned with the extra-ocular movements were sufficient to account for the fusion faculty.

He was averse to glassing children under three years of age, on account of the probable danger of the pressure of the spectacles interfering with the development of the bones of the face. This objection might be purely theoretical and he was ready to be convinced of the falsity of his belief by the actual experience of others. He dwelt upon the necessity of differentiating between concomitant and true congenital squint, as in the latter class of cases orthoptic training was useless and operation the only means of straightening the eyes.

Dr. William Zentmayer: Worth's theory of the causation of squint received its confirmation largely from the results secured from his excellent device, the amblyoscope, and yet the principle of its construction and the methods of its use whereby these results are attained are the very ones that would aid in the restoration of parallelism of the visual axes in cases of concomitant squint, whether it be caused by incoördination between accommodation and convergence or by failure of development of the fusion centre. The theory of Donders agrees with the facts, and in the exceptional cases of convergent squint associated with myopia less than 3 per cent. are probably due to other causes enumerated by the essayist, together with the fact that in a few of these cases this association was observed in adults; and as we know that hyperopia sometimes goes over into myopia, there is no proof but that these cases were originally of the class of convergent squint with hyperopia.

As would be expected from the cause of convergent squint, if the glasses correcting the refraction error are placed upon the child as soon as the squint begins to show itself, and this is usually not before the age of 2 years, the visual axes become parallel and remain so as long as the glasses are worn. If there is delay until the deviating eye becomes amblyopic, the angle

of the squint is lessened by the glasses, but because of poor fixation in the squinting eye parallelism is not fully restored.

In answer to a query why there is at times divergence of the visual axes, with but slight error of refraction, Dr. Posey stated that there were often anatomical peculiarities within the orbit which might account for the divergence and cited a case where an X-ray study of a skull showed encroachment of an unusually wide ethmoid upon both orbits.

Tuberculosis of the Conjunctiva and Sclera, following Removal of a Pigmented Papilloma of Conjunctiva.—Dr. Luther Peter.

Patient was a girl of Cuban extraction, aged 13 years. Congenital brownish pigmented area in the conjunctiva of O.D., 2 mm. from the outer limbus, triangular in shape with base in. Pigment slightly elevated and moved freely with the conjunctiva. Removed April 16th, 1911, under cocaine anæsthesia. May 2nd wound healed, considerable residual redness and slight thickening of the conjunctiva. May 13th, area of redness increased to about 12 mm. in diameter. Color now salmon. Visual fields and eye grounds entirely normal.

Pathological report "pigmented papilloma". About one month after operation the patch showed an increase in diameter and elevation and contained two foci of ulceration. To the palpating finger the thickened area was decidedly firm and somewhat gritty. After consultation with Dr. Wendell Reber it was decided to remove a section of the diseased area to determine the nature of the process. Drs. Rosenberger and Roddy reported a tuberculous process. Careful physical examination and search for tubercle bacilli in septum, urine and feces failed to reveal any foci of disease other than the eye. History of tuberculosis in both maternal grandparents and maternal aunt, otherwise family history negative. On July 6th tuberculin was administered, the initial dose containing 0.01 mg. of the solid tubercle bacilli. A mild reaction followed. Tuberculin now administered at intervals; in ten days improvement noticeable. Incidentally, one month after the use of the tuberculin, the child developed a well marked case of chorea; otherwise her general health has improved with the local improvement. The appearance now is that of a localized episcleritis of a faint brownish tint fading into a pale pink in the periphery.

Special interest centers in the ætiology of the second growth. Possible inoculation from an external source at or after the time of operation may be called into question, although as all precautions were taken, I think inoculation at the time of the operation may be eliminated. Home surroundings were sanitary and the eye was carefully bandaged for several weeks after operation. It is altogether probably that the contused site of operation furnished a good soil for a growth from an internal focus. It is not likely that so small a nidus of tuberculosis would produce so marked or in fact any general reaction to tuberculin. I believe therefore it is fair to conclude that this lesion was secondary to an old focus of tuberculosis from within.

Dr. Posey said it would be interesting to ascertain if the patient had any negro blood, as the non-resistance of the negro to tuberculosis is a matter of daily clinical evidence. He thought 1 mg. of tuberculin too high for the initial dose and said that he began with 1/500 mg., using von Hippel's method.

Neither Dr. Posey nor Dr. Zentmayer had ever seen chorea develop after tuberculosis of the eyes.

Dr. Leighton D. Appleman read a paper on *Dionin as a Factor in Ocular Therapeutics*.

Dr. Posey said that though he had used dionin as a routine measure in much the same manner as Dr. Appleman had advised, he had never as yet been persuaded of the actual value of the drug. Were it as potent to clear opacities as was vaunted, why did slight haze of the cornea not yield at once to its application? In corneal conditions, he had much more confidence in the use of yellow oxide of mercury salve, as an absorbifacient, than in dionin. He did think, however, that dionin was of advantage in obtaining the maximum action of atropine in the treatment of iritis, provided the former drug was administered 15 or 20 minutes before the mydriatic.

Dr. Zentmayer: On the whole my views coincided with those expressed by Dr. Posey. I have used dionin routinely since it was first brought to our attention and as the result of this experience I would be led to conclude that with the exception of aiding in the absorption of recent exudates, such as interstitial keratitis and infected corneal ulcerations, and in clearing corneal opacities, I have seen no marked results from its employment. I think that possibly it relieves to a degree the pain of uveal inflammations.

Dr. Harbridge: It is a point of interest to know whether the use of dionin in cases of subconjunctival hæmorrhage really does lessen the time of absorption. I question whether or not some of the other mildly irritating drugs would not effect the same results as claimed for dionin.

D. FOREST HARBRIDGE, M.D.,
Secretary.

ABSTRACTS FROM MEDICAL LITERATURE.

BY J. F. SHOEMAKER, M.D.,

ST. LOUIS, MO.

THE PRESENT STATUS OF SALVARSAN THERAPY IN SYPHILIS.

Henry J. Nichols (*Jour. A. M. A.*, March 2, 1912), after discussing this subject at some length, says in conclusion:

"The use of the combination of mercury and salvarsan has been taken by some old-line syphilographers as an admission of the failure of the drug, and various disparaging remarks have been made about the inexperience and rashness of various workers who 'rushed' into the field of syphilis with salvarsan. It is perfectly true that the spirochaetes are more difficult to eradicate than many of the younger workers imagined; but, for all that, salvarsan has come to be an integral part of the modern conception of the treatment of syphilis, and we can never go back to the old ways of handling the disease. No one properly equipped to treat syphilis, and in his right senses, would think, in these days, of waiting for secondaries before beginning treatment. In the same way, no one who is properly equipped will fail to use salvarsan when it is indicated. The old-line method of handling syphilis had reached its high-water mark about 1900. Up to this time syphilis was monopolized by syphilographers who had carried the empirical method of treatment to a high pitch, and by dermatologists who were expert at differentiating a papulosquamous from a tuberculosquamous lesion and so on; but as Neisser says, the whole subject had come to a standstill as regards modern scientific advances. In 1903, however, Metschnikoff transmitted the disease to apes and thus started a movement which eventually robbed the disease of its mystery and gave it

its place among the infectious diseases and threw it open to work along modern lines. In rapid succession came the discovery of the cause in 1905, a means of serum diagnosis in 1906, and a method of specific treatment in 1910. All these contributions came from the laboratory and not from syphilographers, and they form interdependent parts in the modern conception of the disease, which is radically different from any of the older conceptions. There is no occasion for quarrel with the older methods unless the issue is forced, and while salvarsan has not fulfilled all expectations, the day of modern achievements is young and the future of syphilis belongs to those who follow the disease along the lines laid down by Metschnikoff, Schaudinn, Wassermann, Noguchi and Ehrlich."

PATHOLOGIC FINDINGS IN HYPERTENSION.

Roger I. Lee (*Jour. A. M.*, October 7, 1911) has made a careful study of the "pathologic findings in every case showing a systolic blood-pressure of over 160 in life which has come to autopsy from the medical wards at the Massachusetts General Hospital from January 1, 1907, to April 25, 1911." He summarizes his article as follows:

Some kidney lesion was present at autopsy in over 71 per cent. of the cases of hypertension. In 13 per cent. the kidney lesion was essentially uncomplicated by other possible blood-pressure-raising factors; the lesion in the kidney was atrophic in 72 per cent. of the kidney cases. Hypertension also occurs in the so-called acute and subacute glomerulonephritis as well as in the atrophic form of nephritis. Arteriosclerosis was present in 69 per cent. of the cases, but in only one case could all other lesions which might cause hypertension be excluded.

In fifteen cases no kidney lesion was found at autopsy. Seven of these cases presented cerebral lesions, seven cardiac lesions and one general arteriosclerosis. In every case of valvular disease of the heart, the aortic valve was involved. No patient without either nephritis or arteriosclerosis showed a blood-pressure of over 200. All the patients with repeated and constant blood-pressure readings of over 200 showed some kidney lesion.

In thirty-eight of the fifty-one cases there were definitely hypertrophied hearts, yet in some instances high blood-pressures were observed to persist for days with hearts weighing less than 400 gm.

The following conclusions seem justified:

Hypertension occurs most commonly in association with some lesion in the kidney. The most common lesion is an atrophic kidney with increase of connective tissue and disappearance of glomeruli. Hypertension occurs also in association with acute, subacute and chronic glomerulonephritis.

Hypertension occurs not infrequently in association with cerebral lesions.

A moderate degree of hypertension may occur in cardiac lesions. In valvular cardiac lesions the aortic valve is apparently always involved.

Hypertension may occur rarely in cases of general arteriosclerosis without other lesions.

With a continued systolic blood-pressure of over 200, some form of nephritis is found.

Hypertension usually indicates well-marked cardiac hypertrophy. The hypertrophy may be moderate in connection with a well-marked hypertension over a considerable period.

A NEW MUSCLE RESECTION OPERATION FOR SQUINT.

Robert G. Reese (*N. Y. Med. Jour.*, January 13, 1912) gives a description of his muscle resection operation for squint which he has performed on two hundred and fifty cases during the past ten years. He makes a vertical incision in the conjunctiva six millimetres from the corneoscleral margin, opens Tenon's capsule at the upper and lower limits of the incision, passes a strabismus hook beneath the muscle and exposes the bare muscle back to the canthus by dissecting the conjunctival and subconjunctival tissue away from it. He then grasps the muscle with his forceps, clamps them and cuts the muscle two millimetres from its insertion. Three sutures are used, the middle one being a No. 3 braided silk with a needle on each end. This one is introduced first, one needle being passed through the muscle from its scleral surface posterior to the blade of the forceps, four millimetres from the point of resection and one millimetre to the side of a groove on the forceps which is to be over the middle of the muscle; the other needle is passed in the same manner but one millimetre to the other side of the groove, thus making a loop with the suture on the scleral surface of the muscle. As the needles are passed they include the conjunctiva. Two wing sutures, No 5 silk with a single needle, are next introduced, one near the superior, the other near the inferior edge

of the muscle, but including the conjunctiva with the muscle and entered through the conjunctiva first. The muscle is then cut between the sutures and forceps leaving at least two millimetres in front of the loop. The two needles attached to the middle suture are inserted into the scleral stump two millimetres apart and the other two through the upper and lower edges of it, all of them including the conjunctiva over the stump. The middle suture is tied first, in a loop, and after this the lateral sutures which bring the parts in apposition so that no supplementary conjunctival sutures are needed. The lateral sutures can be taken out any time after forty-eight hours while the middle one is removed on the tenth day.

Reese summarizes the essential features of his operation as follows:

1. The line of incision is six millimetres from the circumcorneal vascular zone, thereby avoiding any marked reaction.
2. The free dissection of the muscle from all tissues of the globe makes the operation a myectomy.
3. The sutures are put in the scleral stump, avoiding traumatism by not sewing the sclera proper.
4. The manner of placing the middle suture precludes the possibility of its pulling out.
5. The "bridle" seen in advancements is avoided; motility is not limited and a better cosmetic effect is given.
6. The muscle is sutured to its original insertion and not to the corneal margin. The same result is eventually obtained in advancements, as the belly of the muscle becomes attached to the original insertion.
7. The motility is increased in every case.
8. The manner of placing the forceps insures the holding of all the fibres and the groove on its blade indicates the middle of the muscle.

BOOK REVIEWS.

OUTLINE OF APPLIED OPTICS (Blakiston's Science Series). By G. G. Nutting. With 73 illustrations. Philadelphia, 1912. P. Blakiston's Son & Co. Price \$2.00.

This book deals chiefly with optical instruments, instruments for forming images, analyzing light and determining the properties of materials. As a textbook written by a man excellently well fitted for the task, it should prove of great value not only to all those who use optical instruments, but also, to those who design them.

A SYMPOSIUM ON THE EXTRACTION OF SENILE CATARACT. Being a complete report of the papers and discussions presented before the Chicago Ophthalmological Society, November 20th, 1911. Edited by H. W. Woodruff, M.D. Illustrated. Chicago, 1912; Cleveland Press.

This book cannot fail to be of great interest to all practical ophthalmologists. It is a record of the personal experiences in cataract extraction of a number of ophthalmologists of standing and well known in the profession, and as such must be read to be fully appreciated. No short review can do it justice as it treats of all the different phases of this most important operation.

ON THE PHYSIOLOGY OF THE SEMI-CIRCULAR CANALS AND THEIR RELATION TO SEASICKNESS. By Joseph Byrne, A.M., M.D., LL.B. New York, 1912; J. T. Dougherty.

After very careful and exhaustive considerations of the anatomy of the labyrinth and the physiology of the semi-circular canals, and their part in the production of nystagmus, the author details his studies in seasickness. These he made to a large extent on himself, being an acute sufferer from seasickness whenever on board of a ship. Finally a chapter is devoted to treatment. This is a scholarly book and makes very interesting reading.

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